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The academic performance of student athletes is an area of concern for colleges and universities nationwide. Studies have predicted the academic performance of student athletes through both cognitive and noncognitive means. The purpose of this study was to investigate academic, athletic, and career athletic motivation as noncognitive predictors of academic performance for 275 college student athletes at a selective, Division I university. An additional purpose was to examine the moderating effects of admission status on the relationship between academic performance and motivation. The findings from this research suggest that academic motivation can serve as a predictor of academic performance in college student athletes, and admission status does not moderate the relationship between motivation and academic performance.

ACADEMIC, ATHLETIC, AND CAREER ATHLETIC MOTIVATION AS
PREDICTORS OF ACADEMIC PERFORMANCE IN STUDENT
ATHLETES AT A DIVISION I UNIVERSITY

by

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Approved by

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To my wife, Amy,

Your support, wisdom, sacrifice, and love helped me more than you know.

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of
The Graduate School at The University of North Carolina at Greensboro.

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TABLE OF CONTENTS

	Page
LIST OF TABLES	vii
LIST OF FIGURES	viii
 CHAPTER	
I. INTRODUCTION	1
Statement of Problem.....	1
Purpose Statement.....	3
Definition of Terms.....	4
Research Questions.....	4
II. REVIEW OF LITERATURE	6
Participation in Intercollegiate Athletics	6
Predicting and Measuring Academic Performance.....	9
Special Admission	13
Noncognitive Variables	15
Motivation as a Variable.....	18
The SAMSAQ Scale to Measure Academic, Athletic, and Career Athletic Motivation.....	24
III. METHODS	27
Introduction.....	27
Participants.....	27
Instrumentation	29
Procedures.....	31
Analysis.....	33
IV. RESULTS	35
Introduction.....	35
Descriptive Statistics.....	35
Reliability.....	40
Correlations.....	41
Regression Models.....	43

V. DISCUSSION	49
Introduction.....	49
Findings.....	50
Preliminary Analyses	50
Research Question One.....	52
Research Question Two	55
Limitations	57
Implications for Practice	59
Implications for Research	61
Conclusion	65
REFERENCES	67
APPENDIX A. THE SAMSAQ INSTRUMENT	74
APPENDIX B. EMAIL CONFIRMING PERMISSION TO USE THE SAMSAQ INSTRUMENT	78
APPENDIX C. AGENCY LETTER OF SUPPORT	80
APPENDIX D. CONSENT TO ACT AS A HUMAN PARTICIPANT.....	82

LIST OF TABLES

	Page
Table 1. Summary of Participant Characteristics	28
Table 2. Summary of Research Questions, Sources of Data, and Methods of Analysis.....	34
Table 3. Frequencies and Percentiles of the Variables in Block One	38
Table 4. Means and Standard Deviations of the SAT Scores and SAMSAQ Subscores	39
Table 5. One-Way Analyses of Variance of the SAT and SAMSAQ Scores According to Admission Status	40
Table 6. Correlation Matrix of Variables	42
Table 7. Hierarchical Regression Analysis Summary for Predicting Grade Point Average (N=270)	44

LIST OF FIGURES

	Page
Figure 1. Two-Way Interaction Effects of Admission Status on the Relationship between GPA and Career Athletic Motivation (CAM).....	46
Figure 2. Two-Way Interaction Effects of Admission Status on the Relationship between GPA and Student Athletic Motivation (SAM).....	47
Figure 3. Two-Way Interaction Effects of Admission Status on the Relationship between GPA and Academic Motivation (AM).....	47

CHAPTER I

INTRODUCTION

Statement of Problem

College student athletes are under significant pressure to perform both inside and outside the classroom. Unlike the traditional college student population, student athletes who compete in sports at the collegiate level must face an additional and unique collection of challenges and demands that may require special attention and support (Broughton & Neyer, 2001; Carodine, Almond, & Gratto, 2001). Student athletes must learn to balance both academic and athletic responsibilities. They must dedicate countless hours to practicing their sport and staying fit, while keeping up with the rigors of college level coursework and regular academic commitments.

Athletic programs at colleges and universities are governed by a number of different national agencies, including the National Junior College Athletic Association (NJCAA), the National Christian College Athletic Association (NCCAA), the National Association of Intercollegiate Athletics (NAIA), and the Association of Christian College Athletics (ACCA). Like many of these governing agencies, the National Collegiate Athletics Association (NCAA), which governs the remainder of the nation's collegiate athletic programs, is committed to supporting and enhancing the athletic and educational experiences of college student athletes within their member institutions. Because the integration of intercollegiate athletics into higher education is a core value of the NCAA,

the NCAA adopted an academic reform package in 2003 designed to improve the academic performance and graduation rates of college student athletes (Hosick, 2008).

This academic reform package, or Academic Progress Report (APR), aims to improve the academic performance of college students athletes by holding campuses accountable for the academic progress of their student athletes. In other words, if colleges and universities cannot maintain high academic performance of their student athletes, as measured by GPA, retention, and graduation rates, they receive penalties including scholarship restrictions and decreased recruiting opportunities (National Collegiate Athletics Association, 2008a). Although these negative consequences might motivate college athletic programs to improve the academic performance of their student athletes, they do not necessarily motivate individual student athletes toward academic success.

Without an understanding of the factors that can influence a student athlete's academic performance, athletic program administrators and student affairs professionals cannot effectively provide services to support and encourage student athletes adequately. However, predicting future academic performance presents a challenge. Some research asserts that the potential academic success of a college student athlete can be determined through cognitive means (Ervin, Saunders, Gillis, & Hoglebe, 1985; Hood, Craig, & Ferguson 1992), whereas other research affirms the use of noncognitive variables (Simons, Van Rheene, & Covington, 1999; Snyder, 1996; Tracey & Sedlacek, 1985). Only recently has research begun to focus on the specific noncognitive variables of academic, athletic, and career athletic motivation as predictors of academic performance (Gaston-Gayles, 2004).

Purpose Statement

The purpose of this study was to determine the extent to which academic, athletic, and career athletic motivation can predict the academic performance of student athletes at a private, Division I university. An additional purpose of the study was to explore whether or not there is a difference in the relationship between motivation and academic performance between student athletes who have been admitted under nonstandard, or exceptional, criteria and student athletes who are admitted through the standard admissions process. The results will be helpful to athletic program administrators and student affairs professionals in assisting student athletes to be successful both in and out of the classroom. If athletic program administrators and student affairs professionals can create opportunities for student athletes to transfer their athletic skills and motivation to the classroom, then student athletes may increase their chances of academic success and completion of a degree.

This research, conducted at a private, Division I institution, will contribute to the body of literature by exploring relationships among noncognitive variables and academic performance. The results from this study may provide justification for including academic and learning skills specialists on the staff of academic services for university athletic programs. Furthermore, the findings could be helpful in identifying student athletes who have low levels of academic motivation. Finally, by conducting this research, the generalizability of a recently constructed assessment used to predict the academic performance of college student athletes can be enhanced. The Student Athletes' Motivation toward Sports and Academics Questionnaire (SAMSAQ; Gaston-Gayles,

2004), measures academic, athletic, and career athletic motivation in college student athletes and, due to its recent creation, has not yet been widely used.

Definition of Terms

Nonstandard admission. A term used to describe the admission of a student to a college or university who has not met the standard criteria generally used in the admissions process. These students may provide a compelling case or valued contribution to the community, including athletic ability, artistic talent, or historic affiliation with the institution.

Revenue generating sport. A phrase used to refer to collegiate athletic sport teams that historically generate financial revenue through ticket and other merchandise sales. For example, men's football and basketball and women's basketball teams are generally considered to be revenue generating sports.

Noncognitive. A term used to describe the skills, values, and attitudes that may not be directly associated with intellectual ability.

NCAA Divisions. Colleges and universities are divided into Division I, II, and III by the National Collegiate Athletics Association according to various requirements including the number of sports teams sponsored, participant minimums, attendance requirements, and financial aid awards.

Research Questions

The specific research questions were:

1. What is the relationship between academic, athletic, and career athletic motivation and academic performance in college student athletes?

2. Is the relationship between academic, athletic, and career athletic motivation and academic performance moderated by admissions status?

CHAPTER II

REVIEW OF LITERATURE

In this chapter, literature about the role of intercollegiate athletics in higher education is explored. Both positive and negative effects resulting from participation in intercollegiate sports teams are found in the research literature about intercollegiate athletics and sport education. Efforts to measure and predict the academic performance of college student athletes, through both cognitive and noncognitive means, provides a framework for this study. Specifically, research that addresses the noncognitive variable of motivation is more thoroughly reviewed to provide support for further study. Furthermore, the specific subpopulation of student athletes who have been admitted to college under nonstandard criteria is addressed. Finally, this chapter examines the Student Athletes' Motivation toward Sports and Academics Questionnaire (SAMSAQ; Gaston-Gayles, 2004), which is an assessment tool used to examine the relationship between athletic motivation, academic motivation, career athletic motivation, and academic performance in college student athletes.

Participation in Intercollegiate Athletics

College athletics plays a powerful role in American society (Bowen & Levin, 2003; Shulman & Bowen, 2001) and remains an omnipresent and influential presence in university life. Research and criticism of intercollegiate athletic competition can be found in both scholarly and popular literature, and many educators debate the importance of

athletics at colleges and universities. It is well documented in student development literature that meaningful engagement outside traditional classroom settings can have significant impacts on students' personal development (Pascarella & Terenzini, 2005). Additionally, participation in intercollegiate athletics can have a positive impact on academic motivation (Astin, 1984) and support student development by improving interpersonal skills, leadership abilities, and peer relationships (Ryan, 1989).

Conversely, other research illustrates how intercollegiate participation can have negative impacts on cognitive outcomes in certain student athlete populations (Pascarella, Bohr, Nora, & Terenzini, 1995). Still others question the relevance of intercollegiate athletics to the mission of higher education (Fried, 2007). In his book about the commercialization of higher education, Bok (2003) wrote, "big-time athletics have certainly caused many universities to compromise their admissions standards, water down their curricula, and provide many athletes with a pale imitation of a college education" (p. 44).

Criticisms of intercollegiate athletics are illustrated through popular media, too. In particular, *I Am Charlotte Simmons* (Wolfe, 2004), a best-selling novel about higher education, described in great detail the discrepancy between student athlete and "regular" student requirements, responsibilities, and expectations. Several chapters of the book are dedicated to chronicling the surreptitious completion of an essay by a tutor from the athletic department and the resulting honor violation.

Scholars have suggested that students who are more committed to their athletic role than to their academic role have lower grade point averages (Simons et al., 1999).

Using mixed methods research, Benford (2007) took a very critical approach to the role of athletics in higher education and illuminated the corruption, dissatisfaction, and shifts in priorities within college athletic reform. For example, he explored the rapid escalation of coaches' salaries and the shift in focus from educating students to the growing involvement of colleges and universities in the entertainment, or "edutainment," industry (p. 12).

Despite the periodic censure of college athletics, it is important to remember that many of these young men and women remain genuinely interested in pursuing postsecondary education and obtaining a college degree (Rishe, 2003). Further, student athletes are representatives of their institutions and can impact the public opinion of the institutions they represent (Eiche, Sedlacek, & Adams-Gaston, 1997). Because many college and university leaders have an interest in maintaining a positive and successful image for their institutions, they maintain an obligation to ensure that these student athletes have opportunities to perform academically. The academic success of student athletes is a responsibility that is shared among athletic departments, student affairs divisions, faculty, academic support services, and the athletes themselves.

Failure to succeed in the classroom endangers an athlete's eligibility to compete and receive scholarships. In contrast to the rest of the campus population, student athletes also must handle public scrutiny, because high profile athletics receive media attention and often serve as recruiting tools for their institutions (Carodine et al., 2001; Fried, 2007; Simons et al., 1999). In an ethnographic, longitudinal study of a Division I basketball team, Adler and Adler (1991) determined that student athletes allow all the

pressures and rewards associated with their school, sport, and peer culture to engulf their lives at the expense of their academic identification.

In addition, student athletes must acquire the communication skills to negotiate the demands of coaches, faculty, friends, and family. Most athletes are required to devote between 20 and 30 hours per week to practicing when their sport is in season, and they must miss class for athletic competitions (Simons et al., 1999). They must also deal with intense fatigue and physical injuries as a result of their participation in athletic competitions.

While it often seems that student athletes have more responsibilities than they can manage, many still succeed. In fact, it would seem that student athletes *should* succeed academically if the qualities associated with athletic success such as hard work, self-discipline, determination, and concentration, were shifted to the academic domain (Simons et al., 1999).

Predicting and Measuring Academic Performance

Methods to predict academic performance in student athletes range from analyzing standardized test scores to assessing the level of stress and social support in college (Petrie & Stoeber, 1997). It is difficult to determine the most accurate predictor of academic success. For example, standardized test scores can provide a quantitative measure of academic performance, but can the data be used to predict future performance correctly? Conversely, is measuring stress level, social support, and other noncognitive variables an accurate way to predict potential academic performance?

Criticisms of the standardized assessments used to predict college performance, specifically the SAT, are well-documented in the literature. Some critics report that these measures are unreliable and are biased against underrepresented groups (Freedle, 2003; Sedlacek, 2004). Further, these tests may lack validity and perpetuate a status quo for a particular privileged population (King & Bowman, 2006). According to these critics, standardized tests scores alone cannot reliably predict academic success in college.

However, Ervin et al. (1985) and Hood et al. (1992) found that SAT scores were significantly related to academic achievement in college student athletes. Students who entered college with lower than average admissions criteria, including standardized test scores, achieved lower grade point averages. Although this research supports using cognitive criteria as predictors of performance, other research (Gaston-Gayles, 2004; Petrie & Stoever, 1997; Sedlacek, 2004; Simons & Van Rhee, 2000) encourages taking noncognitive variables into consideration when predicting academic performance of student athletes, and other nontraditional students in college, because standardized test scores alone are not the most reliable indicators of academic ability.

Measuring, in contrast to predicting, academic performance provides another set of challenges. For example, Ferris, Finster, and McDonald (2004) stated that NCAA graduation rates, which have been published every year since 1993 as mandated by federal law, are misleading and invalid. The results do not take into consideration the diversity of students and institutions. Nor do they measure all student athletes, only those who are enrolled full-time and receive scholarships or financial aid.

Research that explores the academic performance of student athletes is generally negative and critical, focusing on low test scores and compromised academic ability (Martin & Harris, 2006). For example, Pascarella et al. (1995) investigated the freshman-year cognitive outcomes of 2416 first-year students from 18 baccalaureate-granting institutions and five two-year colleges in 16 different states as part of the National Study of Student Learning (NSSL), a longitudinal exploration of variables that influence learning and cognitive development in college. Among the results, Pascarella et al. found that male football and basketball players experienced declines in reading comprehension and mathematics during their first year. However, nonathletes and those student athletes who played sports other than basketball and football showed gains in these two cognitive areas. According to the authors, these results were found not only in Division I institutions, but also in Divisions II and III, indicating that these effects are widespread within the sports themselves and not only on individual campuses. The researchers made specific recommendations to remedy negative influences early in a college career because, although this study examined the cognitive factors of first-year students, evidence suggested that these differences in abilities are only the beginning of a disadvantage that will grow over time.

Furthermore, other research supports this achievement divide between revenue and non-revenue generating sports. For example, in a study looking at actual and predicted academic performance, researchers determined that the average class rank of high profile athletes (e.g. basketball and football) at private, Division I universities, such as Duke, Notre Dame, Stanford, and Vanderbilt, was significantly lower than athletes in

other NCAA Divisions (Shulman & Bowen, 2001). Shulman and Bowen also stated that it was “not surprising that over 80 percent of the High Profile athletes in the Division IA private universities ended up in the bottom third of the class” (p. 64).

Concerns about the academic performance of student athletes influenced the National Collegiate Athletic Association (NCAA) to increase its eligibility standards by using cognitive predictors like standardized tests scores and grade point averages to predict academic success in college (Simons & Van Rheenen, 2000). Efforts have been made by the NCAA to encourage a system that monitors the academic performance of student athletes. The NCAA holds athletic departments accountable for ensuring that their student athletes do not drop below an expected and well-publicized rate, the Academic Performance Rate (APR). The NCAA will penalize programs whose APR numbers are not satisfactory (Hamilton, 2005).

As the NCAA increases its efforts to support and increase the academic performance of student athletes, it seems that athletic departments are enhancing their services, too. More athletic administrators are interested in helping students learn to balance academic and athletic commitments, not only to secure graduation rates, but to make certain that student athletes are enjoying their college experience (Holsendolph, 2006). Using noncognitive predictors to supplement cognitive measures may contribute to a more accurate prediction of student athlete academic performance and assist athletic departments in their efforts to encourage balance and well being among their student athletes.

Special Admission

Almost all colleges admit student athletes who (a) have lower admission credentials than other students and (b) would not have been admitted to their institution without their athletic talent and abilities (Knight Foundation, 2006). The Knight Foundation Commission on Intercollegiate Athletics, which was established to monitor the academic and financial integrity of collegiate athletics, recently made attempts to influence the NCAA special admissions process policy by discouraging admissions officers from simply providing a specific number of “special admits” to athletic departments. Their aim was to discount the assumption that the admission of athletes is based more on the need for winning teams than on academic promise. The NCAA’s Division I Committee on Athletic Certification has determined that special admission policies must be consistent for both athletes and other students, who may not meet the traditional admissions requirements but have other valuable skills and abilities to contribute.

However, each college or university has its own admissions policies, which contributes to discrepancy among expectations and standards. Despite the delineation of this particular subpopulation of college student athletes, virtually no research exists that explores, examines, or describes the behaviors, needs, and characteristics of these student athletes admitted under nonstandard criteria. They face tremendous challenges and are under significant stress to perform both academically and athletically. To further understand this population and contribute to the absence of literature in the area, research investigating this population is warranted and necessary.

Student athletes who are recruited to play at selective, Division I schools, and who do not meet the standard admissions requirements of other students, would seem to be at an even greater disadvantage than other student athletes because they have to balance so many different roles while facing the intense rigor of selective academics with potentially limited academic preparation. Further, Shulman and Bowen (2001) reported that the gap in SAT scores between student athletes and the general population has grown over time. If representatives from selective institutions choose to admit these students, then these colleges or universities must provide the academic assistance and support to meet these students' unique needs (Aries, McCarthy, Salovey, & Banaji, 2004). Student athletes at selective institutions face not only the challenge of balancing time commitments in their sport and in the classroom, but also the challenge of surviving in such a rigorous academic environment. If student athlete support services and programs are crafted according to the needs of this population, then athletic program administrators are enhancing the possible academic success of student athletes admitted under nonstandard criteria.

While research devoted to the predictors of academic performance in college student athletes is helpful, still more can be done to delve deeper into the performance of this distinctive population of student athletes admitted under nonstandard criteria. It is important to investigate these student athletes at selective institutions because research focusing on this particular population of students is sparse. Developing an understanding of the influences in these student athletes provides an opportunity to contribute to the knowledge base of college student development literature, while recognizing a group of

students whose experiences and are often overlooked (Bruening, Armstrong, & Pastore, 2005). Furthermore, measuring the extent to which academic and athletic motivation influences the academic performance of these students has not yet been explored.

Noncognitive Variables

Sedlacek (2004) challenged the use of the SAT and other standardized tests because they do not measure how students learn, their ability to learn, or their quality of instruction. Instead, he suggested an assessment model that uses noncognitive variables to measure the academic potential of students. According to Sedlacek, noncognitive variables, including adjustment, awareness, and perception instead of the traditional areas of verbal and quantitative assessment, can be used in concert with traditional methods to provide a broader view of academic promise.

Using noncognitive factors in addition to the traditional cognitive measures is becoming more widespread in research (Gaston-Gayles, 2004). This evidence is particularly true for students from ethnic minority and nontraditional groups. Tracey and Sedlacek (1984) introduced the Noncognitive Questionnaire (NCQ) to predict the academic performance of nontraditional students in higher education. The NCQ assesses seven noncognitive variables that relate to academic success. These noncognitive variables are: (a) positive self-concept, (b) realistic self-appraisal, (c) understanding and dealing with racism, (d) setting long-term goals, (e) strong support system, (f) leadership experiences, and (g) community service experience. In a follow up, longitudinal study at a large eastern, public institution, Tracey and Sedlacek's (1985) findings suggest that when these noncognitive factors were combined with SAT scores, the predictions of

academic performance were more accurate for nontraditional students than cognitive factors alone. More specifically, the values of the multiple correlation coefficients for the NCQ were equal or better than the correlation coefficient values for SAT in each of the separate regressions. Their results suggest that the combination of noncognitive and cognitive variables was a better predictor than cognitive variables alone, particularly for Black students.

Sedlacek and Adams-Gaston (1992) used the NCQ and SAT scores to predict the academic success of 105 incoming, first-year student athletes (67 male and 38 female) at a large eastern university. The results demonstrated that several of the noncognitive variables measured on the NCQ correlated with first-semester grades for student athletes, and the SAT did not. As a result, Sedlacek and Adams-Gaston believed that student athletes should be considered nontraditional students because their experiences, as a community of students, are unique. According to Sedlacek and Adams-Gaston, student athletes, as nontraditional students, have their own individual culture, share similar goals and values, and spend much of their time together. Because the NCQ has proven to be successful in predicting the success of nontraditional students, and the researchers assert that student athletes are, in fact, a nontraditional population, then the NCQ also should be able to predict academic success of student athletes. Based on their results, they successfully demonstrated the effectiveness of using noncognitive variables to measure academic performance and predict the early success of student athletes. Furthermore, the NCQ also displayed a positive correlation with retention and graduation. Of the seven noncognitive variables that the NCQ measures, Sedlacek and Adams-Gaston found that

(a) feeling confident about oneself, and (b) having support from the community or an individual were the best predictors of academic achievement, since these two variables accounted for the largest degree of variance in the regression equation. This research study strongly indicates the effectiveness of using the NCQ to predict the performance of student athletes, and it presents a compelling argument for the classification of student athlete as nontraditional.

Young and Sowa (1992) also used the NCQ to evaluate the college academic potential for 136 male and female (72% men and 28% women) Black student athletes at a predominantly White mid-sized institution from 19 different intercollegiate sports. Their results demonstrated that, although the cognitive variable of high school GPA was one of the best predictors of academic success, noncognitive factors such as community service, understanding racism, and goal setting were also effective predictors. Young and Sowa offered suggestions for incorporating the data from the NCQ of incoming athletes into a student athlete college orientation program. Practical noncognitive skills, particularly goal setting, for example, could be provided as an early developmental and academic advising step. Even though this study used the NCQ to evaluate the academic potential of Black student athletes, these results could be helpful to academic support professionals who work with student athletes of varied backgrounds. Offering the specific suggestions of including the data from the NCQ informs practice and policy.

The two previous studies isolated specific noncognitive variables that clearly illustrated benefits in predicting the academic performance of student athletes. However, not included in the Noncognitive Questionnaire is the variable of motivation. Until

recently, research has not focused on academic and athletic motivation as a factor in determining academic performance. Little attention has been devoted to the motivation variable, which might be helpful to college administrators, counselors, and student affairs professionals in creating programs that focus on a student athlete's academic goals.

Motivation as a Variable

It is widely thought that many students who attend college to play sports are interested only in the opportunities to play professionally and are not motivated to perform academically (Lucas & Lovaglia, 2002). Harrison and Lawrence (2003) pointed out that many student athletes enter college with "perceptions that their life chances in sport are lucrative" (p. 374). They are confident in their athletic ability and are revered on campus as a result of persistent media coverage. However, Harrison and Lawrence noted that less than two percent of student athletes will continue at the professional level. Unfortunately, many student athletes seem to believe that they are included in that top percentage and do not consider their college years to be the end of their athletic career. In a qualitative inquiry using visual elicitation, Harrison and Lawrence examined seven different domains that impact the perception of the career transition process for 15 male and 11 female Black student athletes at a southeastern institution. By analyzing the participant responses to a visual narrative of a college student athlete who had successfully made the transition out of sport, Harrison and Lawrence were able to demonstrate that student athletes often over committed to their identity as an athlete. For some student athletes, they fail to consider any other role or identity on campus. However, Harrison and Lawrence also demonstrated that many student athletes

recognized the significance of being a “hard worker on the field and in the classroom” (p. 382).

As described by Vroom (1964), motivation is a force that exhibits behavior, directs behavior, and sustains behavior. Motivation tends to be specific to individual behaviors and will be used to select the option that has the greatest reward. In his Expectancy Theory of Motivation, Vroom explains how decisions are made by considering various options and alternatives. Expectancy Theory has three key perceptions: (a) expectancy, (b) instrumentality, and (c) valence, and each perception represents a differing belief: (a) effort, (b) performance, and (c) reward.

Vroom’s Expectancy Theory of Motivation (1964) is commonly used and researched in business education and organizational behavior. However, Vroom’s theory can be applied to college student development and has been used to predict academic performance (Geiger & Cooper, 1995), occupational choice (Brooks & Betz, 1990), and test-taking motivation (Sanchez, Truxillo, & Bauer, 2000) in college students. Geiger and Cooper (1995) found that valence, which is one of Vroom’s key perceptions and measured as the attractiveness of high academic performance in this study, was found to be the best predictor of academic performance in 81 male and female college students. Brooks and Betz (1990) used Vroom’s Expectancy Theory to predict occupational choice in 188 male and female undergraduate, primarily first-year, students. They found that the Expectancy x Valence interaction for an occupation accounted for 12 to 41 percent of the variance in occupational choice. Finally, by developing and using a measure of test-taking motivation based on Vroom’s motivation theory, Sanchez and colleagues (2000)

examined the relationships among test-taking motivation, prior test-taking experience, and actual test performance. Not only did they find that expectancy was related to actual test performance, but regression analysis found that the Valence, Instrumentality, and Expectancy Motivation Scale (VIEMS) explained the variance in test score beyond a general measure of test motivation.

Examining Vroom's (1964) Expectancy Theory of Motivation can help inform how researchers measure and predict academic performance in college student athletes. For example, student athletes can determine the value of a reward, like obtaining a college degree, and then decide whether or not to approach the task depending on their perceived skills and the efforts needed to fulfill the task. Some college student athletes will be motivated academically because they believe they are capable of accomplishing the task and are aware of the value of completing a college degree. However, other college athletes will be more athletically motivated. They are confident in their abilities to excel in athletics and are motivated to pursue a task due to the perceived value. These students are self-assured that they can accomplish the rewarding goal of excelling in their sport and are motivated to succeed. Conversely, student athletes who perceive that they do not possess the skills to succeed academically, or who do not value the task of completing a college degree may not be motivated to succeed academically, which may limit their efforts in the classroom accordingly.

Snyder (1996) studied the levels of expressed academic motivation among Black and White student athletes. Three hundred and twenty seven Black and White male student athletes were selected from several campuses of a university system. The

participants were asked to respond to a series of situations where they were offered academically inclined alternatives and athletically inclined alternatives. Although the results provided some noteworthy evidence about the differences in motivation between Black and White student athletes, including the fact that Black student athletes were more drawn to play professional sports than were the White athletes, the findings did not provide insight into how motivation affected academic performance. It is interesting that White and Black student athletes differed in how they select roommates and how they prepare for final exams, for example, but Snyder did not provide results that contribute practical significance to the academic support of student athletes. More research on the specifics of how motivation impacts academic performance is needed.

Simons et al. (1999) examined the achievement motivation of 361 university student athletes, 228 males and 133 females, using self-worth theory, which measured student athletes' approach to success and avoidance of failure. In this study, commitment to athletics was shown to correlate negatively with college GPA, which meant that the higher students' commitment to their sport, the lower their GPA. Specifically, the authors used motivational typology based on self-worth theory and achievement motivation, proposed in the earlier work of Covington (1992). Covington's four motivational types are identified as: (a) success-oriented (i.e. high scores on approaching success and low on avoiding failure); (b) failure-avoiders (i.e. low scores on approaching success and high on avoiding failure); (c) overstrivers (i.e. high scores on both measures); and (d) failure-acceptors (i.e. low scores on both measures). They found that those students who were classified as *failure-acceptor* student athletes were more committed to their sport than

success-oriented student athletes. Also, more of the *failure-acceptor* student athletes played revenue sports such as football and basketball than the other student athlete types. Since the *failure-acceptors* had little or no interest in academics, it seemed as if playing their sport was the sole interest in attending college. The authors suggested it is the nature of intercollegiate athletics to pressure students into increasing their commitment to athletics and minimizing their academic commitment. According to this research, when student athletes are more motivated by athletics, they tend to make lower grades. Student athletes who are highly motivated to succeed academically demonstrated higher academic performance.

A second study by Simons and Van Rheenen (2000) revealed that one of the central problems facing student athletes at academically elite universities was finding the appropriate balance between academic and athletic demands. Simons and Van Rheenen studied the athletic-academic relationship and achievement motivation in 200 Division I intercollegiate student athletes, 126 male and 74 female, in 26 sports enrolled at the University of California at Berkeley. A survey measuring background and noncognitive variables, including (a) athletic-academic commitment, (b) exploitation, (c) academic self-worth, and (d) self-handicapping excuses was administered to the participants. Simon and Van Rheenen found that academic identity and academic self-worth were critical to academic success as measured through a regression analysis. Both variables provided strong predictive value, according to the results. In other words, student athletes needed to feel as if they were an essential component within the academic community and needed to feel confident in their academic abilities if they were to succeed. The results

from this study provide support for the predictive value of noncognitive variables. While this study addressed the significance of achievement motivation, it did not specifically identify the variable of motivation to predict academic performance.

Contrary to the findings of Simons et al. (1999) and Simons and Van Rheezen (2000), Sellers (1992), in a study focusing on racial differences and the predictors of academic performance, found that academic motivation was not an accurate predictor of academic success in 409 male basketball players and 917 football players at 42 different Division I institutions. Instead, high school GPA emerged as a significant indicator of college success, as measured by college GPA. The results of this study seem contradictory to previous studies measuring motivation because noncognitive variables have proven to be effective at predicting academic performance in other studies. However, the difference may lie in how Sellers operationalized academic motivation. This study measured motivation by the number of hours a student athlete spent studying and by their self-reported aspirations to obtain a college degree. While this measure might be similar to Astin's (1984) definition of involvement in learning, measuring motivation by calculating the number of study hours does not seem to provide the most precise report of academic motivation.

It is clear from the research that noncognitive variables are significant and have predictive value for the academic performance of college student athletes. Sedlacek and Adams-Gaston used the Noncognitive Questionnaire (NCQ) and SAT scores to successfully predict the academic performance of first-year athletes. Harrison and Lawrence (2003) demonstrated that many student athletes overly-commit to their athletic

identity. Snyder (1996) found that athletes can be motivated by playing their sport professionally. Simons et al. (1999) showed the difference between motivational types on assorted measures of academic performance, and Sellers (1992) accounted for hours dedicated to studying and the personal desire to attain a degree. Motivation, described by Vroom (1964), as a force that exhibits behavior, directs behavior, and sustains behavior, is a noncognitive variable in predicting academic performance that has yet to be fully examined. According to Gaston-Gayles (2004), a void exists in the literature that explores motivation as a noncognitive variable in predicting academic performance among college athletes at a Division I university.

The SAMSAQ Scale to Measure Academic, Athletic, and Career Athletic

Motivation

Gaston-Gayles (2004) used the Student Athletes' Motivation toward Sports and Academics Questionnaire (SAMSAQ), which she developed, to examine the relationship between athletic motivation, academic motivation, career athletic motivation, and academic performance as measured by GPA in a sample of 211 student athletes, 142 male and 69 female, at a Division I institution in the Midwest. She further explored whether differences existed as a function of gender and profile of sport (whether or not the sport had a professional team or league in the U. S.). Gaston-Gayles found that academic motivation was influential in predicting academic performance. Through multiple regression analyses to determine if motivation was useful in predicting academic performance, precollege characteristics, including gender, race, profile of sport, parent's education, and ACT scores accounted for 24% of the variance in college grade point

average (GPA) ($F=10.70$; $p<.001$). After controlling for precollege characteristics, motivation scores accounted for an additional 9% of the variance in academic performance ($F=9.18$; $p<.001$). In the overall regression model, which explained 33% of the variance in GPA, ethnicity, ACT scores, and academic motivation were found to be additional significant predictors.

While the cognitive factor of ACT score was determined to be influential, other variables, including noncognitive ones, accounted for additional variance on academic performance. Even though the outcomes from this study (Gaston-Gales, 2004) contradicted the findings from previous research (Sellers, 1992), where no relationship was found between academic motivation and academic performance, they supported the assertion that noncognitive variables, including motivation, can be useful in practice, nonetheless. If athletic programs and student affairs professionals could create pathways for student athletes to transfer their athletic skills and motivation to the classroom, then student athletes could increase their chances of academic success. Moreover, while contributing to research that measures noncognitive variables, the NCAA has access to another study that substantiates the practice of using assessments to measure noncognitive factors.

The purpose of this literature review is to create a framework for continuing a study of academic and athletic motivation in college student athletes. More research should be conducted to further explore academic and athletic motivation as predictors of academic performance. Because the sample for the Gaston-Gayles (2004) study was drawn from a single institution in the Midwest, the ability to generalize to other

institutional populations is limited. To increase the validity and efforts of applying the findings of the Gaston-Gayles study, the SAMSAQ should be administered to student athletes at other Division I colleges and universities in different areas of the country. For example, assessing the noncognitive factors that predict the academic performance of students at a private, selective Division I university in the South might be particularly helpful in the continuing efforts of athletic programs and student affairs professionals to assist student athletes in finding success in performance both in and out of the classroom. Finally, by assessing the noncognitive predictors of academic performance in a subpopulation of college student athletes who were admitted under nonstandard criteria, student affairs professionals and athletic program administrators can gain valuable insight about academic and athletic motivation while contributing to an obvious void in the student development, higher education, and sport education research literature.

CHAPTER III

METHODS

Introduction

The purpose of this study was to determine the extent to which academic, athletic, and career athletic motivation could predict the academic performance of student athletes at a private, Division I university. An additional objective of this study was to discover if a significant difference in the relationship between motivation and academic performance existed between student athletes who had been admitted under nonstandard criteria and student athletes who were admitted through the standard admissions process. The results will be helpful to athletic program administrators and student affairs professionals in assisting student athletes to be successful both in and out of the classroom. If athletic program administrators and student affairs professionals can create opportunities for student athletes to transfer their athletic skills and motivation to the classroom, then student athletes may increase their chances of academic success and completion of a degree.

Participants

The participants in this study were student athletes from nine varsity team sports at a selective Division I university in the Southeast (N=275). These nine sports represent the teams that admit students under nonstandard criteria and include the following: football, basketball, soccer, golf, tennis, field hockey, volleyball, baseball, and track and

cross country. All team members from each of the nine varsity sports were asked to participate in the study. Their involvement was voluntary. Table 1 contains a summary of participant characteristics.

Table 1

Summary of Participant Characteristics

Sport	Male			Female		
	Standard	Nonstandard	Total	Standard	Nonstandard	Total
Football	45	33	78	0	0	0
Basketball	7	6	13	4	5	9
Soccer	20	1	21	16	3	19
Golf	7	0	7	8	0	8
Tennis	5	3	8	4	2	6
Field Hockey	0	0	0	13	1	14
Volleyball	0	0	0	10	2	12
Baseball	25	9	34	0	0	0
Track & Cross Country	15	1	16	26	4	30
Total	124	53	177	81	17	98

Instrumentation

The Student Athlete's Motivation toward Sports and Academics Questionnaire (SAMSAQ; Gaston-Gayles, 2004) was used to assess academic, athletic, and career athletic motivation. This instrument was constructed from an expectancy-value motivation framework. The SAMSAQ is a 30-item instrument to which students responded on a 6-point Likert-type scale from 6 (*very strongly agree*) to 1 (*very strongly disagree*). The SAMSAQ consists of three different subscales: (a) student athletic motivation (SAM) (8 items), (b) academic motivation (AM) (16 items), and (c) career athletic motivation (CAM) (5 items). Each subscale measures the extent to which student athletes are motivated toward related tasks. For example, an item on the SAM subscale states, "achieving a high level of performance in my sport is an important goal for me this year" and an AM subscale example states "I am confident that I can achieve a high GPA this year (3.0 or above)" (p. 78). An example of a CAM statement states "my goal is to make it to the professional level or the Olympics in my sport" (Gaston-Gales, 2005, p. 326). Scores for each of the subscales were obtained by reverse coding the nine items that required it (items 5, 9, 11, 17, 18, 21, 25, 26, and 30), summing the responses for each subscale, and calculating the mean score for each subscale. Each item on the SAMSAQ belongs to one of the subscales, and the score for each item ranges from 1 (low) to 6 (high). A higher score indicates a higher degree of motivation. A copy of the SAMSAQ is included as Appendix A. See Appendix B for an email confirming permission from Joy Gaston Gayles for the use of the SAMSAQ in this research.

Reliability refers to the consistency of measurement (Isaac & Michael, 1995). In other words, if subjects were to be tested repeatedly using a specific assessment tool, researchers would hope to obtain consistent results over time. One method for estimating reliability is using Cronbach's alpha, which measures internal consistency. The Cronbach's alpha coefficient reported for each subscale by Gaston-Gayles ranged from .79 to .86. Specifically, the alpha value for the AM subscale was .79, for the SAM subscale .86, and for the CAM subscale .84. Alpha coefficients range from 0 to 1, and coefficients closer to 1 (e.g., .70) indicate a high level of consistency among the items on a scale. Therefore, these values are considered acceptable.

Validity refers to the degree to which results actually reflect what the researcher is trying to measure. Scores from an instrument should be meaningful, make sense, and allow the researcher to draw conclusions from a sample and make inferences about a population (Creswell, 2005). Gaston-Gayles (2005) examined the predictive validity for the SAMSAQ and found that Academic Motivation (AM) was a significant predictor of grade point average. Gaston-Gayles provided no validity information for the other two subscales. Because the SAMSAQ is relatively new, no other studies have been published to date that examine the validity of the SAMSAQ. However, the results of this study contribute to the generalizability and transferability of the SAMSAQ.

The three motivation scores from the SAMSAQ served as the independent variables, and cumulative college grade point average (GPA) served as the dependent variable of academic performance. GPA was selected as the measure of academic performance in this study for two reasons: (a) GPA has been used in student development

literature to measure academic achievement and (b) this study is grounded in the work of Gaston-Gayles (2004), who used GPA as her measure of academic performance in the SAMSAQ. Demographic data were also collected and used in the analyses. These demographic questions were aimed at identifying background variables and included total SAT score, parents' educational levels, gender, sport, hours completed toward graduation, and ethnicity. Some of these background variables have been researched in other studies, and they have been identified as significant in academic performance (Petrie & Stoeber, 1997; Sedlacek, 2004; Tracey & Sedlacek, 1985; Young & Sowa, 1992).

Procedures

Permission to administer the SAMSAQ to student athletes was obtained by meeting with the Assistant Athletic Director for Academic Services to describe the SAMSAQ and the significance of conducting this research. Coaches were contacted by the staff from Academic Services for Student Athletes and, with the approval from the Assistant Athletic Director, asked to allow their team members to participate in the study (see Appendix B). Efforts were made to maintain participant anonymity and confidentiality through a collaborative effort between the researcher and the staff from the Academic Services for Student Athletes office. Both parties avoided recording information that could potentially identify participants. Surveys and consent forms were coded to further increase anonymity and confidentiality (see Appendix C for Consent to Act as a Human Participant). For example, the participant who received the questionnaire coded with the number one also received the consent form coded with the number one.

The participants were instructed not to write any identifiable information on the questionnaire.

Data were collected during team meetings arranged with assistance from the Academic Services staff. Each participant received a packet containing two consent forms and a copy of the SAMSAQ questionnaire. The researcher read an oral script describing the study and the level of involvement for participation in the research study. Participants signed one consent form and kept the other one for their records. The SAMSAQ was administered using paper and pencil, or pen. Once completed, the participants turned in the signed consent forms and questionnaires separately. The Academic Services staff used the signed and coded consent forms to obtain information about admission status and SAT score, and they subsequently provided the researcher with that data, according to code. In other words, the researcher received coded data from the Academic Services staff that corresponded with the coded questionnaire data, collected by the researcher, from the team meeting. Cumulative grade point averages were obtained from the registrar's office, via the Academic Services staff, using the same coding procedures. The researcher did not know at any time which participant was connected with which instrument, and the Academic Services staff did not have access to the questionnaire data or student athlete responses. Therefore, the research data were anonymous in regard to the researcher, and the Academic Services staff was able to match codes with student names.

Analysis

Descriptive statistics were obtained including frequencies, means, and standard deviations. A preliminary analysis of the data was performed to examine the strength of the relationships among the variables in the study. For the purpose of this study the significance level was set at $p < .05$. To answer the research questions about the relationship between motivation and academic performance of student athletes, a total of four multiple regression analyses were performed. First, a hierarchical linear regression was conducted to determine if SAMSAQ motivation subscores were significant predictors of academic performance, as measured by cumulative GPA, for the total sample of college student athletes. Background characteristics, including ethnicity, gender, total SAT score, parent's educational level, and hours completed toward degree were entered in the first block, and motivation scores were entered in the second block to determine the variance of these subscores on academic performance, above and beyond the variance accounted for by the background variables alone.

Next, three linear regressions were performed to determine if academic performance was moderated by admission status. This test for an interaction determines if a difference exists in the relationship between motivation and academic performance for two different groups within the total sample: (a) student athletes who were admitted under nonstandard admissions criteria and (b) student athletes who were admitted under standard admissions criteria. In all the regression equations, the level of significance was set at $p < .05$. Finally, secondary analyses were performed to examine other potentially

predictive factors including ethnicity, gender, admission status, and SAT score. See Table 2 for a summary of research questions, sources of data, and methods of analysis.

Table 2

Summary of Research Questions, Sources of Data, and Methods of Analysis

Research Question	Source of Data	Analysis
What is the relationship between academic, athletic, and career athletic motivation and academic performance in college student athletes?	AM, SAM, and CAM subscale scores from the SAMSAQ; background variables; GPA	Descriptive statistics, correlations matrix, and hierarchical multiple regression.
Is the relationship between academic, athletic, and career athletic motivation and academic performance moderated by admissions status?	AM, SAM, and CAM subscale scores from the SAMSAQ; background variables, interaction variable for admission status, and GPA.	Descriptive statistics and three multiple regression analyses to test for an interaction of admission status.

CHAPTER IV

RESULTS

Introduction

The data for this study were analyzed on several levels. First, descriptive statistics for the participants are presented, providing basic information about the student athletes and their backgrounds. Next, bivariate coefficient tests were conducted with the responses to the SAMSAQ, and the data were tested for internal reliability. Finally, linear regression models were created to examine the relationship between motivation scores and academic performance in college student athletes.

Descriptive Statistics

A total of 287 surveys were distributed to team members in nine varsity sports at one selective university in the southeast. Data were collected during separate team meetings, in Spring 2008, from students in the following sports: football; men's and women's basketball; men's and women's soccer; men's and women's golf; men's and women's tennis; women's field hockey; women's volleyball; men's baseball; and men's and women's track and cross country. The total number of responses was 287, for a response rate of 100%. However, ten responses were dropped because of missing data, and two more responses were dropped because the participants were younger than 18 years of age. Therefore, the usable sample size for the analyses was decreased to 275.

Of the 275 participants, 98 (36%) were female and 177 (64%) were male. It is interesting to note that the percentages of males and females in the current study were very similar to the percentages that Gaston-Gayles (2004) reported in her research, which is the foundation for this current study. One hundred and ninety-nine (72%) of the participants were identified as White and 56 (20%) of the participants were identified as Black/African American. The remaining 20 participants (8%) were identified as Asian/Pacific Islander (0.7%), Hispanic/Latino (0.7%), Native American (0.7%), Multiracial (4.4%), or other (0.7%). Because the ethnicity groups other than White and Black/African American were too small for meaningful analysis and based on Gaston-Gayles' previous research, this study used White and Non-White as the two variables of study for ethnicity. This decision was supported by an analysis of the variance among responses according to ethnicity; specifically, post hoc analyses of the variables determined that no significant differences existed between the ethnicities of Black and other, with the exception of Total SAT score. Therefore, because significant differences existed between White and Black, and White and other, yet no significant differences existed between Black and other, except for Total SAT score, this study used White and Non-White as the two variables of ethnicity. Furthermore, the percentage of student athletes identifying an ethnicity other than Black, White, or Multiracial is 2.8%. It should be noted that the researcher is sensitive to the implications of grouping ethnic minorities together into one group, particularly as it relates to athletics.

The majority of participants indicated that a college degree was the highest level of education completed by their mothers (47%) and their fathers (36%). However, it is

interesting to note that 19% of participant mothers and 33% of participant fathers also have completed an advanced graduate degree. In other words, 72% of participant mothers and 77% of participant fathers have completed a college or advanced graduate degree. Two hundred and five students (75%) were admitted to the university using standard criteria, and 70 students (25%) were admitted using nonstandard criteria. Thirty percent of the participants were in their first year of college, 28% were in their second, 24% were in their third, 15% were in their fourth, and 3% were in their fifth year. Among the student athletes participating in this study, 78 students (28%) played football, 22 (8%) played basketball, 40 (15%) played soccer, 15 (5%) played golf, 14 (5%) played tennis, 14 (5%) played field hockey, 12 (4%) played volleyball, 34 (12%) played baseball, and 46 (17%) participated in the track and cross country teams. Table 2 contains the frequencies and percentiles for the background variables of interest.

The mean GPA for the total sample was 2.85, and the scores ranged from 0.95 to 4.0. The mean Total SAT score for the total sample was 1130, and scores ranged from 740 to 1580. However, ANOVA analysis showed that the difference in the Total SAT scores between student athletes who were admitted under nonstandard criteria and student athletes who were admitted under standard criteria was significant. Furthermore, there were statistically significant differences in academic motivation (AM) and career athletic motivation (CAM) scores between the two groups. The difference in student athletic motivation (SAM) score between the two groups was not significant.

Table 3***Frequencies and Percentiles of the Variables in Block One***

Variables	Frequency	Percent
Gender		
Male	177	64
Female	98	36
Ethnicity		
White	199	72
Non-White	76	28
Mother's Highest Education Level		
Less than high school	3	1
Some high school	1	< 1
High school degree	38	14
Some college	35	13
College degree	130	47
Some graduate work	15	6
Advanced graduate degree	52	19
Father's Highest Educational Level		
Less than high school	3	1
Some high school	1	< 1
High school degree	33	12
Some college	24	9
College degree	98	36
Some graduate work	24	9
Advanced graduate degree	89	32
Hours Completed Toward Graduation		
0 – 45	83	30
45 – 90	112	41
90 or higher	78	29

Table 4 contains the Total SAT scores and the SAMSAQ subscores for both groups of students. Table 5 contains the ANOVA of the differences in Total SAT scores and SAMSAQ scores according to admission status.

Table 4

Means and Standard Deviations of the SAT Scores and SAMSAQ Subscores

Variables	Mean	Standard Deviation
Standard ($n=205$)		
College GPA	2.97	0.47
Total SAT	1186	144.27
SAM	4.72	0.68
CAM	3.78	1.22
AM	4.44	0.59
Nonstandard ($n=70$)		
College GPA	2.49	0.45
Total SAT	967	135.70
SAM	4.72	0.61
CAM	4.49	1.03
AM	4.22	0.62

Note. SAM = student athletic motivation (range from 1 [*low*] to 6 [*high*]); CAM = career athletic motivation score (range from 1 [*low*] to 6 [*high*]); AM = academic motivation score (range from 1 [*low*] to 6 [*high*]).

Table 5***One-Way Analyses of Variance of the SAT and SAMSAQ Scores According to Admission Status***

Variable and source	df	SS	MS	F
Total SAT				
Between Groups	1	2501577.40	2501577.40	123.80**
Within Groups	273	5516409.51	20206.63	
CAM				
Between Groups	1	26.41	26.41	19.20**
Within Groups	273	375.44	1.36	
SAM				
Between Groups	1	0.00	0.00	.00
Within Groups	273	118.87	0.44	
AM				
Between Groups	1	2.52	2.52	56.16**
Within Groups	273	98.08	0.36	

* $p < .05$. ** $p < .01$

Reliability

Reliability is a measure used to determine the consistency and stability of an instrument in measuring the trait or skill it is intended to measure. In other words, it is the ability of the measurement to be repeated over time with consistent results. Cronbach's alpha was calculated for the responses in this study to determine the internal consistency of the scale, which is a method for measuring reliability. Alpha coefficients range from 0

to 1, and coefficients closer to 1 (e.g., .70) indicate a high level of consistency among the items on a scale.

The resulting Cronbach's alphas for this study were consistent with the values calculated in Gaston-Gayles' (2004) research. For example, in this study, the alpha value for the SAM was .82; the alpha value for the CAM was .89; and the alpha value for the AM was .84. For comparison, Gaston-Gayles reported alpha values of .86, .84, and .79 respectively. These scores indicate high internal consistency among the items, particularly because a Cronbach's alpha score of .70 is considered acceptable. Because of the consistent internal reliability scores with the previous study, these results can contribute to the generalizability of the SAMSAQ.

Correlations

Bivariate correlations were used to examine the relationships among the variables in the study. Table 6 presents correlations among the 11 variables using the Pearson Correlation framework. The significance for each correlation is also shown.

According to Newton and Rudestam (1999), a relationship of .80 is considered strong, .50 is considered moderate, and .20 is considered weak. Actual academic performance, as measured by college GPA, had a significant positive relationship with Total SAT score ($r=.567$; $p=.000$) and admission status ($r=.413$; $p=.000$). Furthermore, Total SAT score and admissions status had a significant positive relationship as well ($r=.559$; $p=.000$). Finally, ethnicity had a significant, albeit weaker, inverse relationship with admission status ($r=-.386$; $p=.000$); grade point average ($r=-.352$; $p=.000$); and Total SAT score ($r=-.437$; $p=.000$).

Table 6***Correlation Matrix of Variables***

Variables	SAM	CAM	AM	GPA	MEDU	FEDU	GEND	ETH	ADMIN	HRS	SATT
SAM	1.000										
CAM	.652**	1.000									
AM	-.175	-.280**	1.000								
GPA	-.051	-.257**	.469**	1.000							
MEDU	.026	-.090	.200**	.290**	1.000						
FEDU	-.027	-.162**	.222**	.278**	.595**	1.000					
GEND	-.202**	-.289**	.179**	.247**	.108	.155*	1.000				
ETH	.018	.262**	-.109	-.352**	-.132*	-.284**	-.256**	1.00			
ADMIN	-.001	-.256**	.158**	.413**	.303**	.268	.138*	-.386**	1.000		
HRS	.045	-.005	.070	.146*	.095	-.048	.025	-.040	.093	1.000	
SATT	-.055	-.374**	.361**	.567**	.291**	.334**	.060	-.437**	.559*	.043	1.00

Note. SAM = student athletic motivation (range from 1 [*low*] to 6 [*high*]); CAM = career athletic motivation score (range from 1 [*low*] to 6 [*high*]); AM = academic motivation score (range from 1 [*low*] to 6 [*high*]); MEDU = highest level of mother's education (range from 1 [*less than high school*] to 7 [*advanced degree*]); FEDU = highest level of father's education (range from 1 [*less than high school*] to 7 [*advanced degree*]); GEND = gender (0 [*male*] or 1 [*female*]); ETH = ethnicity (0 [*White*] or 1 [*Non-White*]) ADMIN = admission status (0 [*nonstandard*] or 1 [*standard*]); HRS = hours completed toward graduation; SATT = Total score on the SAT.

* $p < .05$. ** $p < .01$

Among the motivation subscores, the CAM score had significant, although weak, inverse relationships with the AM score ($r = -.280$; $p = .000$); grade point average ($r = -.257$; $p = .000$); gender ($r = -.289$; $p = .000$); admission status ($r = -.256$; $p = .000$); and total SAT score ($r = -.374$; $p = .000$). However, CAM and SAM had a significant, positive, and strong

relationship ($r=.652$; $p=.000$). Finally, AM score had a significant positive relationship with GPA ($r=.469$; $p=.000$) and SAT score ($r=.361$; $p=.000$).

Regression Models

Multiple regression models are used when researchers wish to predict a dependent variable from one or more independent variables, or when a determination of the proportion of variance accounted for by the independent variables is desired. The multiple regression procedure allows the researcher to assess the relationship between a dependent variable and multiple independent variables. This study used multiple regression analysis to examine motivation as a predictor of academic performance in college student athletes.

The first research question was: What is the relationship between academic, athletic, and career athletic motivation and academic performance in college student athletes? Hierarchical regression analysis was used to examine the extent to which motivation scores predicted academic performance above and beyond six background variables. Table 7 contains the results from the hierarchical regression analysis. The variables were entered into the equation in two blocks. First, the background variables of SAT, mother's highest educational level, father's highest educational level, gender, ethnicity, and hours completed were entered simultaneously in block one. The motivation subscores—AM, CAM, and SAM—were entered simultaneously in block two. Actual academic performance, defined by the cumulative grade point average (GPA), was the dependent variable.

Table 7***Hierarchical Regression Analysis Summary for Predicting Grade Point Average (N=270)***

Variable	<i>B</i>	<i>SE B</i>	β	R^2	ΔR^2
Block 1				.393	.393
SAT	.001	.000	.476**		
Gender	.191	.052	.182**		
MEDU	.034	.024	.087		
FEDU	.017	.022	.049		
Hours Comp	.002	.001	.116*		
Ethnicity	-.080	.064	-.070		
Block 2				.451	.058
SAT	.001	.000	.399**		
Gender	.161	.053	.154**		
MEDU	.030	.023	.077		
FEDU	.007	.022	.020		
Hours Comp	.002	.001	.100*		
Ethnicity	-.118	.062	-.104		
CAM	.020	.029	.047		
SAM	.014	.049	.019		
AM	.223	.043	.268**		

Note. MEDU = highest level of mother's education (range from *less than high school* to *advanced degree*); FEDU = highest level of father's education (range from *less than high school* to *advanced degree*); Hours Comp = number of hours completed toward graduation; CAM = career athletic motivation score (range from 1 [*low*] to 6 [*high*]); SAM = student athletic motivation (range from 1 [*low*] to 6 [*high*]); AM = academic motivation score (range from 1 [*low*] to 6 [*high*]).

* $p < .05$. ** $p < .01$

The background variables accounted for approximately 39% of the variance in actual academic performance ($F=28.39$; $p=.000$). Motivation scores accounted for an

additional 5.8% of the variance in actual academic performance, above and beyond the background variables ($F=23.76$; $p=.000$). In the overall regression model, total SAT score, gender, hours completed, and the academic motivation score were significant predictors of academic performance.

The second research question was: Is the relationship between academic, athletic, and career athletic motivation and academic performance moderated by admissions status? Individual regression equations were used to examine the moderating effect of admissions status on the relationship between grade point average and the three different motivation subscores of AM, SAM, and CAM. Specifically, these regression equations determined if a difference existed in the relationship between motivation and academic performance for two different groups within the sample: (a) student athletes who were admitted under nonstandard admissions criteria and (b) student athletes who were admitted under standard admissions criteria. A relationship is moderated when the association between two variables—academic performance and motivation subscores—differs according to different levels of a third variable, or moderator. In this study, admissions status, a dichotomous value, is the moderator.

The moderating effect of the admissions status variable was tested using a series of three multiple regression models. An interaction term, or variable, was created for each equation by multiplying admissions status by the appropriate motivation subscore. The six background variables of total SAT score, gender, mother's highest level of education, father's highest level of education, ethnicity, and hours completed were entered

simultaneously with the variables of admission status, the selected motivation subscore (AM, SAM, or CAM), and the corresponding interaction variable.

Each of the overall regression models was significant, which means that the combination of variables included in the model accounted for a significant portion of variance in actual academic performance. The relationships were influenced (in all three models) by admission status, but there was no interaction between motivation score and academic performance by admission status. In other words, the relationship between motivation and academic performance is not moderated by admission status. This relationship can be seen in graphical terms by plotting lines representing the relationship between GPA and motivation for each of the two different groups (Dawson, 2009). Because the lines do not cross and are virtually parallel, an interaction effect is not present. Figures 1, 2, and 3 contain the two-way interaction effects of admission status on the variables of academic performance and motivation subscore.

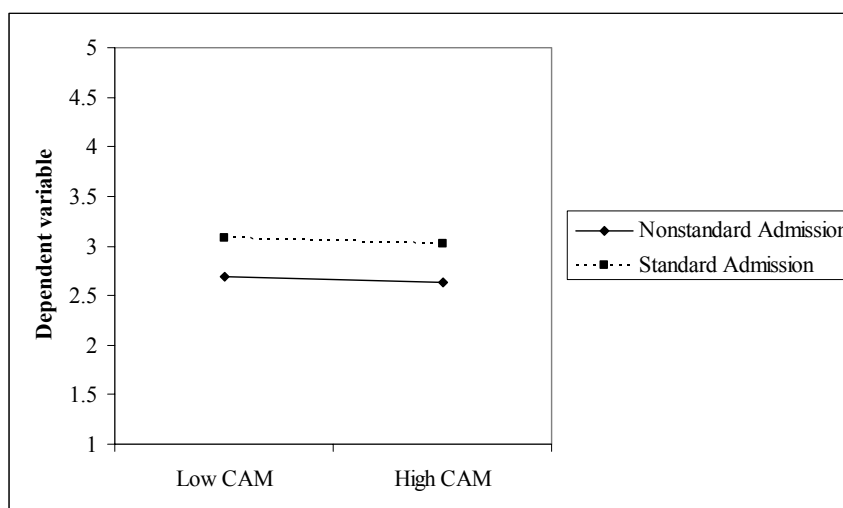


Figure 1. Two-Way Interaction Effects of Admission Status on the Relationship between GPA and Career Athletic Motivation (CAM)

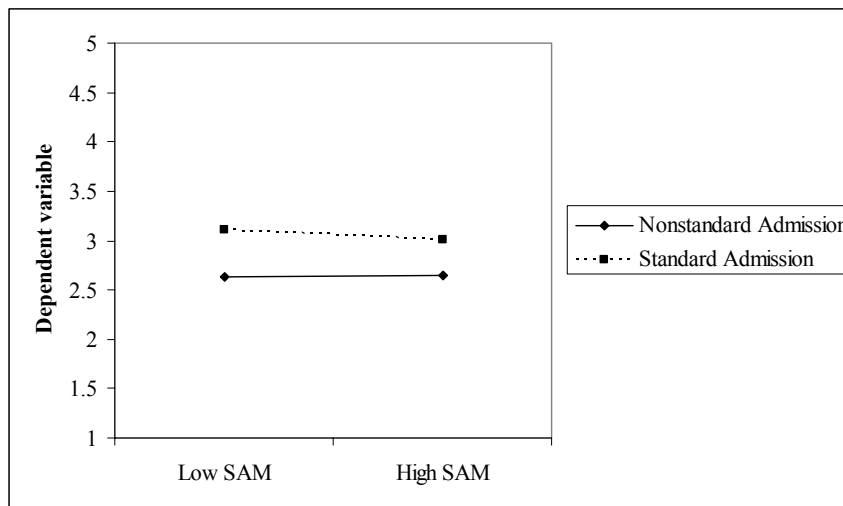


Figure 2. Two-Way Interaction Effects of Admission Status on the Relationship between GPA and Student Athletic Motivation (SAM)

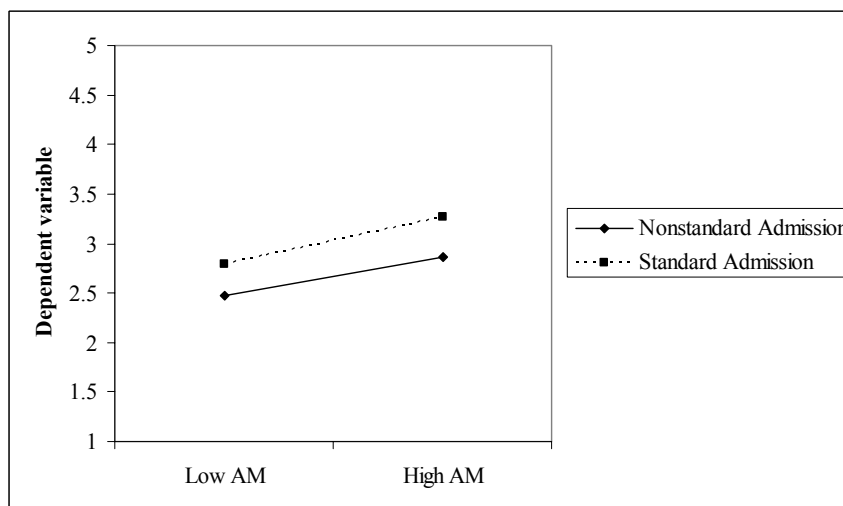


Figure 3. Two-Way Interaction Effects of Admission Status on the Relationship between GPA and Academic Motivation (AM)

Overall, this study found that academic motivation was a significant predictor of academic performance in college student athletes. Furthermore, the motivation scores explained an additional 5.8% to the variance in academic performance, above and beyond

background variables, which included SAT scores. Finally, the analyses examining the moderating effects of admission status on the relationship between academic achievement were not found to be significant.

CHAPTER V

DISCUSSION

Introduction

The academic performance of student athletes is an area of concern for colleges and universities nationwide. College student athletes are under significant pressure to perform both inside and outside the classroom. Unlike the traditional college student population, student athletes who compete in sports at the collegiate level must face an additional and unique collection of challenges and demands that may require special attention and support (Broughton & Neyer, 2001; Carodine et al., 2001). Furthermore, if colleges and universities cannot maintain high academic performance among their student athletes, as measured by GPA, retention, and graduation rates, then they risk receiving penalties from the National Collegiate Athletics Association, including scholarship restrictions and decreased recruiting opportunities.

Without an understanding of the factors that can influence a student athlete's academic performance, athletic program administrators and student affairs professionals cannot effectively provide services to support and encourage student athletes adequately in the area of academics. However, predicting future academic performance presents a challenge. Some studies have predicted the academic performance of student athletes through cognitive means (Ervin et al., 1985; Hood et al., 1992), whereas other studies

have examined noncognitive predictors (Petrie & Stoeber, 1997; Sedlacek, 2004; Tracey & Sedlacek, 1985; Young & Sowa, 1992).

The purpose of this study was to investigate academic, athletic, and career athletic motivation as noncognitive predictors of academic performance for college student athletes at a selective, Division I university. An additional purpose was to examine the effect of admission status on the relationship between motivation and academic performance within the two groups of student athletes: (a) those who were admitted to the university under standard admissions criteria and (b) those who were admitted to the university under nonstandard criteria.

The Student Athlete's Motivation toward Sports and Academics Questionnaire (SAMSAQ; Gaston-Gayles, 2004) was used to assess academic, athletic, and career athletic motivation in college student athletes, and it was administered to members of nine varsity sports teams at a selective Division I university in the South (N=275). A correlation matrix and a total of four multiple regression models were created to investigate the relationship between the SAMSAQ subscores and the grade point average of these college student athletes.

Findings

Preliminary Analyses

This study suggests some noteworthy findings, particularly regarding gender, grade point average, total SAT score, and motivation subscores. For example, in the current study, gender was positively correlated with academic motivation and college GPA. In other words, female athletes were more likely to be more academically

motivated and have higher grade point averages than the male athletes. Results concerning gender and academic performance of college student athletes from the current study are consistent with previous research. For example, female college athletes have been found to be more academically motivated than male college athletes by degree attainment (Ryan, 1989) and to have less difficulty managing both academic and athletic tasks than male athletes (Simons et al., 1999).

Another notable finding involves the relationship among motivation scores and other variables. For example, high career athletic motivation is significantly and inversely correlated with grade point average. Additionally, career athletic motivation and academic motivation have a significant and inverse relationship, too. In other words, student athletes who are more highly motivated to pursue a career in their sport have lower academic motivation and lower GPAs. However, it is not surprising that the relationship between student athletic and career athletic motivation was positive and significant because student athletes who are motivated to pursue a professional career in sports would seemingly be motivated to succeed in their sport while in college, too. Finally, high athletic motivation has a negative, yet not significant, relationship with college GPA.

The results regarding SAT score from this study are consistent with Ervin et al. (1985) and Hood et al. (1992), who found that SAT scores were significantly related to academic achievement in college student athletes. Furthermore, their results suggested that students who entered college with lower than average admissions criteria, including standardized test scores, achieved lower grade point averages. The results from the

current study contribute to the modicum of research literature concerning student athletes admitted to universities under nonstandard criteria. For example, the current results suggest that student athletes admitted under nonstandard criteria at a selective Division I university will have lower grade point averages, overall, than student athletes admitted under standard criteria.

Research Question One

What is the relationship between academic, athletic, and career athletic motivation and academic performance in college student athletes? The findings from this study suggest that academic motivation is a significant predictor in the overall regression model measuring academic performance as measured by college GPA. Neither athletic motivation nor career athletic motivation was found to be predictive of academic performance. The results of this study are consistent with previous research examining motivation as a predictor of academic performance in college student athletes (Gaston-Gayles, 2004; Simons et al., 1999; Simons & Van Rhee, 2000; Snyder, 1996). However, these results are contrary to Sellers (1992), who suggested that no relationship exists between academic motivation and academic performance in college student athletes.

The current study was based on research conducted by Gaston-Gayles (2004). Specifically, Gaston-Gayles found that academic motivation, ACT score, and ethnicity were significant in the regression model for predicting academic performance in college student athletes at a large, public institution in the Midwest. Findings from the current study suggest that SAT, gender, hours completed toward graduation, and academic

motivation were significant in the regression model. However, it is interesting to note the difference in the amount of variance that SAT scores (Gaston-Gayles used ACT scores) and other background variables (block one) accounted for in the two different regression models. In the Gaston-Gayles model, 24% of the variance in college GPA is accounted for in the first block, which included gender, ethnicity, profile of sport, mother's highest educational level, father's highest educational level, and ACT scores. In the current study, 39% of the variance in college GPA is accounted for in the first block, which included gender, ethnicity, hours completed, mother's highest educational level, father's highest educational level, and total SAT score.

The difference in the amount of variance between the two samples could be attributed to the selectivity of the institution being studied, the level of academic support currently being provided to those student athletes, and the inclusion of number of hours completed toward graduation in the regression equation. For example, according to the NCAA Public Report of the Academic Progress Rate (APR) for the university in this current study, the APR rates for the individual varsity sports are all higher than national averages (National Collegiate Athletics Association, 2008b). In fact, out of the 18 individual sport teams at this institution, which include both the men's and women's teams, three of the team's APR scores are within the 90th to 100th percentile when compared to teams at other institutions. Additionally, 10 of the team's APR scores are within the 80th to 90th percentile when compared to teams at other institutions. These APR scores indicate that student athletes are continuing to remain eligible and returning each semester. Furthermore, high APR scores also indicate the students are persisting

through graduation. In addition, the comprehensive academic support program that currently operates at the institution might be contributing to the discrepancy in the amount of variance. In other words, it is not surprising that student athletes who attend a selective school with a considerable academic support program might have higher SAT scores, be more academically motivated, and have successfully completed more hours toward graduation.

After controlling for the effects of the background variables, Gaston-Gayles (2004) found that all three motivation scores combined accounted for another 9% of the variance in college GPA, which brought the total variance explained up to 33%, whereas in the current study all three motivation scores combined accounted for an additional 5.8%, which brought the total variance explained up to 45.1%. In other words, the first block, which included the cognitive variable of SAT (ACT), was more predictive of college GPA for the sample in the current study than it was in the Gaston-Gayles (2004) study. Conversely, all three of the motivation scores combined accounted for more of the variance in college GPA in the Gaston-Gayles study than in the current study.

Previous research suggests that SAT score, a cognitive variable, is significantly related to academic achievement in college student athletes (Ervin et al., 1985; Hood et al., 1992). Therefore, it is not surprising that SAT was a strong predictor of GPA in this study. However, the purpose of this research was to examine further the predictive value of the noncognitive variable of motivation, beyond SAT score and other background variables. Not only was the correlation between SAT and college GPA fairly strong ($r=.567$; $p=.000$), but SAT along with the other background variables accounted for 39%

of the variance, as noted earlier. However, the SAMSAQ subscore of academic motivation was significant in the overall regression model and, along with the other motivational scores, predicted an additional 5.8% above and beyond the background variables. In other words, academic motivation improves the prediction of GPA over and above SAT scores and other background variables alone.

These findings mean that student athletes at this university who believe it is important to do well in their classes and are interested in learning tend to have higher grade point averages than students who are not as interested in achieving in the classroom. In other words, student athletes who are more academically motivated will perform better academically than students who are less academically motivated. As previously noted, this university is highly selective with a relatively small student population. Furthermore, it is worth noting that these students are enrolling with higher SAT scores and are coming from households where the parental educational level is higher than the national norm.

Research Question Two

Is the relationship between academic, athletic, and career athletic motivation and academic performance moderated by admissions status? The analyses examining the moderating effects of admission status on the relationship between academic performance and motivation were not found to be significant. These results are not surprising due to the fact that, within both groups of college student athletes, participants who had high scores on academic motivation also had higher grade point averages, and students with high scores on career athletic motivation had lower grade point averages. However, it

would not have been unexpected for admission status to have had a moderating effect on career athletic motivation, because it would seem that student athletes with very low grade point averages and very high scores on career athletic motivation might have also been admitted under nonstandard criteria.

The overall regression model was significant, meaning the combination of variables accounted for a significant portion of variance in overall college GPA. However, there was no interaction between motivation score and academic performance by admission status. Therefore, admission status is not a moderator. It should be noted that previous studies that examine the relationship between motivation and student athletes admitted under nonstandard criteria do not exist for comparison.

These findings mean that, although there are some significant differences between student athletes who are admitted under nonstandard criteria and those who are not, including SAT score and grade point average, the relationship between how they perform in the classroom and their motivation is not different. In other words, the way in which motivation influenced grade point average is similar between students who were admitted to this institution because of their exceptional athletic gifts and high potential to contribute to the campus community and those who not only possess athletic talent, but have the academic potential, as measured by traditional cognitive criteria, and interest, too. If students with exceptional athletic talent are recruited to play sports at a highly selective university, but they do not have the same level of academic preparation and experience as their classmates, it is not surprising that they would have lower grade point averages and higher career athletic motivation scores. They may simply be interested in

playing sports at this institution in an effort to fulfill their goal of playing the sport professionally. However, the way in which the motivation level of these student athletes influences grade point average is not different depending on how they were admitted to the university. For example, a student athlete admitted under nonstandard criteria is likely to perform better academically if he or she is motivated to achieve. Conversely, a regularly admitted student athlete who has low academic motivation is likely to perform less well academically.

Limitations

This study has limitations, particularly regarding the sample. Despite having such a high response rate, which provided an accurate representation of the student athletes at this particular institution, it is important to remember that the data represent only that one, single institution. Furthermore, not only were the characteristics of this institution very different in size and location than the previous research using the SAMSAQ, but the characteristics of the student athletes were different in SAT score, too. The mean SAT score for college student athletes in the current study was 1130, whereas the mean SAT score for college student athletes in the Gaston-Gayles (2004) study was 1030, converting from an ACT mean score of 21.96.

In comparison to the statistical profile of first year students enrolled in colleges in the fall semester of 2008, compiled by the Higher Education Research Institute and published in the *Chronicle of Higher Education*, the parental educational levels of student athletes at the institution in the current study were higher than the national average for all first year students (Hoover, 2009). According to these national norms, 53% of fathers and

54% of mothers had completed college or an advanced graduate degree. However, 72% of participant mothers and 77% of participant fathers in the current study had completed a college or advanced graduate degree. It is worth considering that a higher educational level of parents and a higher SAT score may have an influence on the predictability of both cognitive and noncognitive variables in this sample, including academic motivation. Does SAT score account for more of the variance in college GPA as the score increases, resulting in lower variance for the motivation subscores?

As a result of having the sample drawn from a selective, private institution in the South, the ability to generalize to other institutions is limited. In addition, administering the SAMSAQ at a single point in time does not take into account the varying levels of motivation throughout students' academic careers.

Finally, as noted previously, the data were collected at team meetings for the nine varsity sports at the university. Two hundred and eighty-seven students were present at the various meetings, and each student completed and submitted a SAMSAQ assessment, resulting in a 100% response rate. However, there were 314 student athletes enrolled at the institution in the spring semester of 2008, meaning that 27 students were not given the opportunity to complete the SAMSAQ. As a result, 91% of the total number of student athletes enrolled at the university completed the SAMSAQ. It is possible that these non-respondents—all of whom missed a scheduled team meeting—also may vary in some relevant way from the respondents, who all were present at the meetings.

Implications for Practice

The results from this research can provide insight and inform practice concerning academic motivation and academic performance in college student athletes. For example, it is helpful to confirm that academic motivation is a significant predictor of grade point average in college student athletes. On the other hand, it is also helpful to note that, in this study, high career athletic motivation is significantly and negatively correlated with grade point average. Finally, it is useful to note that the findings from the current study suggest that high athletic motivation has a negative, yet not significant, relationship with college GPA. Previous research suggests that students who are more committed to athletics than academics have lower grade point averages (Harrison & Lawrence, 2003; Simons et al., 1999).

Although many, if not most, Division I institutions already have academic support programs in place for their student athletes (Holsendolph, 2006), these findings provide compelling evidence to not only continue the practice of academic support, but increase efforts to cultivate academic motivation in college student athletes, too. For example, if academic programs for student athletes can develop programming models or professional development opportunities for their staff that are aimed at increasing academic motivation in student athletes, then student athletes may improve their academic performance and increase their chances of graduating. Furthermore, these results might support requests for increased staffing in student athlete services, including learning specialists or sport psychologists, whose work with student athletes might encourage academic motivation.

These results support the use of noncognitive assessments, like the SAMSAQ, to supplement SAT scores as predictors of academic performance in college student athletes. If student affairs professionals and athletic administrators have a more accurate profile of their incoming class of student athletes, then they can better prepare for appropriate courses, programming, and outreach to enhance academic motivation. Knowledge about the academic performance and motivation scores of college student athletes admitted under nonstandard criteria can help inform athletic departments and admissions offices, too. For example, the SAMSAQ could be administered to student athletes who have been admitted under nonstandard criteria to identify those who wish to play at the professional level or those for whom academic achievement is a priority. Conversely, the SAMSAQ could help identify students with low levels of academic motivation, too.

With an understanding of the predicted academic performance of these students, admissions offices and athletic departments can be more deliberate about the admissions process. For example, the results from this study suggest that student athletes admitted under nonstandard criteria at a selective Division I university had lower grade point averages, overall, than student athletes admitted under standard criteria. These findings might encourage university administrators to maintain a manageable balance of students admitted under nonstandard criteria and students admitted under the standard criteria, particularly when efforts to increase academic motivation, including staffing, are taken into consideration.

Implications for Research

Because academic motivation was determined to be a significant predictor in the regression model, and the motivation scores contributed an additional 5.6% to the variance in academic performance, above and beyond background variables, these results contribute to the body of research that supports using motivation as a predictor of academic performance in college student athletes (Gaston-Gayles, 2004; Simons & Van Rheenen 2000; Simons et al., 1999; Snyder, 1996). However, as noted earlier, these results also were illustrative of the predictive ability of SAT score. Therefore, findings from these analyses contribute to the broader body of literature that suggests using noncognitive variables in combination with more traditional and historically predictive, cognitive variables, like the SAT (Petrie & Stoeber, 1997; Sedlacek, 2004, Young & Sowa, 1992).

The results of this study contribute to the generalizability of the SAMSAQ. To date, no other research has been published that uses the SAMSAQ as an assessment. Furthermore, the Gaston-Gayles (2004) study investigated student athletes at a large, Midwestern, public institution, and the current study focused on a small, selective, private institution in the South. Measuring the motivation scores of different students in a different setting and replicating the study would contribute to reliability and validity. Although the current findings and the results from Gaston-Gayles both suggested that academic motivation is significant in the regression model, there was a discrepancy in the amount of variance. Why were they different? Was it a matter of institution size or location? Was it because one institution was public and the other institution was selective

and private? Replicating the SAMSAQ with different students in a different setting might help answer these questions and address the discrepancy in variance.

These findings contribute to the virtual absence of research on student athletes admitted under nonstandard criteria. Although researchers may infer that students who are admitted to a university under nonstandard admission criteria will have lower grade point averages than students admitted under standard criteria, these findings confirm that assumption for athletes in this study. It is also helpful to note that, even though the mean differences in GPA, SAT, and SAMSAQ subscores are significant between student athletes admitted under nonstandard criteria and student athletes admitted under standard criteria, there is no significant difference between the two groups with regard to the relationship of motivation scores and grade point average. In other words, these results confirm that student athletes who are admitted under nonstandard criteria have lower college grade point averages than students admitted under standard criteria, yet the relationship between grade point average and motivation is not significantly different as a result of their admission status.

Future research investigating the relationship between motivation and academic performance in college student athletes should continue to be explored with different students from different settings. As noted earlier, the more often that the SAMSAQ is tested among different populations in different settings, the more it can contribute to establishing the psychometric properties of the instrument. For example, it would be helpful to continue administering the SAMSAQ to both private and public colleges, varying in size and location. Additionally, the SAMSAQ should be administered to

student athletes at Division II and Division III institutions. Although some of the findings from this study were similar to Gaston-Gayles' (2004) results, there were some noteworthy differences, too. By increasing the number of times the assessment is administered to student athletes from varying institutions, the validity of the SAMSAQ becomes more evident, and generalizability is enhanced.

Refining the assessment to better reflect the three constructs of academic motivation, athletic motivation, and career athletic motivation might contribute to validity, also. For example, creating more items to measure career athletic motivation might provide a clearer measure of a student athlete's desire to compete at a professional level. As it stands now, career athletic motivation is measured in the SAMSAQ using only five items. Short scales are subject to measurement error; increasing the number of items in a scale can improve the quality of the measurement (Light, Singer, & Willett, 1990). Furthermore, including instructions for scoring the assessment, specifically regarding the items that are reverse coded, should be included, particularly if the SAMSAQ is to be widely used. These changes would not only be helpful for distribution, administration, and scoring the instrument, but also might enhance the reliability and validity of the instrument.

These findings suggest that gender was significant in the overall linear regression model for predicting college GPA. It is interesting to note that gender was not significant in the Gaston-Gayles (2004) study, despite having virtually the same percentages of men and women as the current study. Further research should delve more deeply into the variable of gender. For example, according to the results from this study, women were

more likely to have higher academic motivation scores than men. Conversely, men had higher career athletic motivation scores than women. Does this difference exist because women are more motivated to obtain a degree? Or are the men's scores for career athletic motivation higher because there are more opportunities to pursue professional careers? These questions concerning the relationship between motivation and college student athletes should be examined.

The variable of ethnicity should continue to be investigated, particularly the relationship between admission status and academic performance. As noted earlier, the ethnicity groups other than White and Black/African American were too small for meaningful analysis. Therefore, this study used White and Non-White as the two variables of ethnicity. It should be noted that the researcher is sensitive to the implications of grouping ethnic minorities together into one group, particularly as it relates to athletics. Further research should be conducted to delve deeper into the potential differences among ethnic minorities.

Although the associations among college sports, academic performance, race, and ethnicity have been widely examined, a qualitative inquiry to delve deeper into the experience of ethnic minorities in college sports and their identity as student athletes admitted under nonstandard criteria could be enlightening. For example, a longitudinal, ethnographic design could use academic identity as a lens to analyze how student athletes, who were also ethnic minorities admitted under nonstandard criteria, interpreted their college experience and approached academic commitments throughout their academic and athletic career. It is interesting to note that ethnicity was significant in

Gaston-Gayles (2004) findings but not in the current study's findings, despite having very similar percentages of White and non-White participants.

Finally, this study created four multiple regression models to examine the relationship between the SAMSAQ and academic performance. However, a lot of data were collected for this study and could be examined in a variety of different ways. With such variables as college grade point average, gender, parents' educational levels, sport, admission status, ethnicity, hours completed, and SAT scores, there are many possibilities for further research. Furthermore, having access to such a vast quantity of data about college student athletes at a Division I school is uncommon, so every effort to research and investigate relationships should be explored and encouraged with the data.

Conclusion

College athletics plays a powerful role in American society (Bowen & Levin, 2003; Shulman & Bowen, 2001) and remains an omnipresent and influential presence in university life. Furthermore, college student athletes are under significant pressure to perform both inside and outside the classroom. The academic success of student athletes is a responsibility that is shared among athletic departments, student affairs divisions, faculty, academic support services, and the athletes themselves.

The findings from this research suggest that academic motivation can serve as a predictor of academic performance in college student athletes, and admission status does not moderate the relationship between motivation and academic performance. While research devoted to the predictors of academic performance in college student athletes is helpful, still more can be done to delve deeper into the academic performance of this

distinctive population, particularly those admitted under nonstandard criteria. Developing an understanding of the influences in these student athletes provides an opportunity to contribute to the knowledge base of college student development literature, while recognizing a group of students whose experiences are often overlooked.

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Appendix A
The SAMSAQ Instrument

Student Athletes' Motivation toward Sports and Academics Questionnaire (SAMSAQ)

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1. I am confident that I can achieve a high grade point average this year (3.0 or above).

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

2. Achieving a high level of performance in my sport is an important goal for me this year.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

3. It is important for me to learn what is taught in my courses.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

4. I am willing to put in the time to earn excellent grades in my courses.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

5. The most important reason why I am in school is to play my sport.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

6. The amount of work required in my courses interferes with my athletic goals.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

7. I will be able to use what is taught in my courses in different aspects of my life outside of school.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

8. I chose to play my sport because it is something that I am interested in as a career.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

9. I have some doubt about my ability to be a star athlete on my team.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

10. I chose (or will choose) my major because it is something I am interested in as a career.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree

11. Earning a high grade point average (3.0 or above) is not an important goal for me this year.

☐ very strongly disagree
 ☐ strongly disagree
 ☐ disagree
 ☐ agree
 ☐ strongly agree
 ☐ very strongly agree



12. It is important to me to learn the skills and strategies taught by my coaches.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

13. It is important for me to do better than other athletes in my sport.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

14. The time I spend engaged in my sport is enjoyable to me.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

15. It is worth the effort to be an exceptional athlete in my sport.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

16. Participation in my sport interferes with my progress towards earning a college degree.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

17. I get more satisfaction from earning an "A" in a course toward my major than winning a game in my sport.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

18. During the years I compete in my sport, completing a college degree is not a goal for me.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

19. I am confident that I can be a star performer on my team this year.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

20. My goal is to make it to the professional level or the Olympics in my sport.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

21. I have some doubt about my ability to earn high grades in some of my courses.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

22. I am confident that I can make it to an elite level in my sport (Professional/Olympics).

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

23. I am confident that I can earn a college degree.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

24. I will be able to use the skills I learn in my sport in other areas of my life outside of sports.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

25. I get more satisfaction from winning a game in my sport than from getting an "A" in a course toward my major.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

26. It is not important for me to perform better than other students in my courses.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

27. I am willing to put in the time to be outstanding in my sport.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

28. The content of most of my courses is interesting to me.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

29. The most important reason why I am in school is to earn a degree.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

30. It is not worth the effort to earn excellent grades in my courses.

☐ very strongly disagree ☐ strongly disagree ☐ disagree ☐ agree ☐ strongly agree ☐ very strongly agree

Demographic Questions

1. Gender ☐ Male ☐ Female

2. Race/Ethnicity

- ☐ White/Caucasian
☐ Black/African-American
☐ Asian/Pacific Islander
☐ Hispanic/Latino
☐ Native American
☐ Multiracial
☐ Other _____

3. Mother's Highest Education Level

- ☐ Less than high school
☐ Some high school
☐ High school degree
☐ Some college
☐ College degree
☐ Some graduate work
☐ Advanced graduate degree

4. Father's Highest Education Level

- ☐ Less than high school
☐ Some high school
☐ High school degree
☐ Some college
☐ College degree
☐ Some graduate work
☐ Advanced graduate degree

5. Year in College

- ☐ First
☐ Second
☐ Third
☐ Fourth
☐ Fifth
☐ Other _____

Appendix B

Email Confirming Permission to Use the SAMSAQ Instrument

Re: Thanks

Subject: Re: Thanks
From: Joy Gaston Gayles <gaston@mail.coc.fsu.edu>
Date: Thu, 12 Apr 2007 11:29:01 -0400
To: Michael Shuman <shumanmp@wfu.edu>

Hi Michael,

No problem. Glad you were able to connect with other folks studying college athletes. Best of luck with your study and keep me posted on your findings.

At 01:17 PM 4/9/2007, you wrote:

Dear Dr. Gales,

Thanks again for taking the time to talk me with me briefly at the joint ACPA/NASPA conference. I'm sorry we didn't have the chance to catch up more at the FSU social. Talking with you was VERY helpful. How did you enjoy the rest of the conference?

While at the conference, I also met Ernie Fingers from the University of Maryland and Lori Hendricks from the University of Michigan - both of them have research interests in college student athletes and academic performance.

I appreciate your willingness and interest in allowing me to use the SAMSAQ as an assessment for collecting data for my dissertation. I will be taking two directed research courses this summer, and I'll plan send you an abbreviated version of my proposal, for your reading pleasure, at the end of the summer. Plus, I am happy to follow up with you concerning my results next year.

In the meantime, if you have any other questions or comments concerning my research interests and intentions, please contact me.

Sincerely,
 Michael Shuman

.....
 Joy Gaston Gayles, Ph.D.
 Assistant Professor
 Florida State University
 113 Stone Bldg.
 Tallahassee, FL 32306
 (850)644-3581 - office
 (850)644-1258 - fax
gaston@coc.fsu.edu - e-mail

Appendix C
Agency Letter of Support

February 8, 2008

Dear Colleagues,

I am writing to inform you of my support for the Protocol entitled "Academic, Athletic, and Career Motivation as Predictors of Academic Performance in Student Athletes at a Division I University" which will be conducted by Michael P. Shuman.

I support the research proposed by Mr. Michael Shuman. I agree with all Procedures and believe that the data obtained will be beneficial.

This research will provide Mr. Shuman and the University of North Carolina at Greensboro with important evaluative information which can be used for continuous program improvement.

Sincerely,

Assistant Athletic Director

Appendix D

Consent to Act as a Human Participant

UNIVERSITY OF NORTH CAROLINA AT GREENSBORO
CONSENT TO ACT AS A HUMAN PARTICIPANT: LONG FORM

Project Title: ***Academic, Athletic, and Career Athletic Motivation as Predictors of Academic Performance in Student Athletes at a Division I University***

Project Directors: **Deborah J. Taub, Ph.D. and Michael P. Shuman, M.Ed.**

Participant's Name: _____

DESCRIPTION AND EXPLANATION OF PURPOSE AND PROCEDURES:

The purpose of this study is to determine the extent to which academic, athletic, and career athletic motivation can predict the academic performance of student athletes at a private, Division I university. You have been selected to participate in this research study because you are part of a sports team at this institution. Participants are asked to sign both consent forms and keep one copy for personal records. *The Student Athlete's Motivation toward Sports and Academics Questionnaire (SAMSAQ)* will be administered to all participants using paper and pencil or pen. The SAMSAQ should take 15-20 minutes to complete. Once completed, the participants will be asked to turn in the signed consent forms and questionnaires separately. The researcher will collect the following data from Academic Services and the Registrar's Office: SAT score, high school GPA, cumulative college GPA, admission status, and number of hours completed. Both your responses to the survey and the data collected from Academic Services and the Registrar's Office will be confidential, and, because your responses and data are coded, the researcher will not know at any time which participant is connected with which instrument.

POTENTIAL RISKS AND DISCOMFORTS:

There are no risks or discomforts associated with this study.

POTENTIAL BENEFITS:

This research will contribute to the body of student development literature by exploring relationships among noncognitive variables and academic performance. Furthermore, this research could provide helpful information to athletic and student affairs administrators regarding academic support services for student athletes. There are no benefits to the individual participants.

By signing this consent form, you agree that you understand the procedures and any risks and benefits involved in this research. You are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice; your participation is entirely voluntary. Your privacy will be protected because you will not be identified by name as a participant in this project. Signed consent forms and response data will be kept in a secure file in the Learning Assistance Center at Wake Forest University for three years following the completion of this study. Additionally, your responses will be stored electronically on a portable USB drive and kept in a locked desk when not in use. After three years, all data will be shredded and erased.

The University of North Carolina at Greensboro Institutional Review Board, which ensures that research involving people follows federal regulations, has approved the research and this consent form. Questions regarding your rights as a participant in this project can be answered by calling Mr. Eric Allen at (336) 256-1482. Questions regarding the research itself will be answered by Michael P. Shuman by calling (336) 758-5929. Any new information that develops during the project will be provided to you if the information might affect your willingness to continue participation in the project.

By signing this form, you are affirming that you are 18 years of age or older and are agreeing to participate in the project described to you by Michael Shuman.

Participant's Signature _____

Date _____

APPROVED IRB

3/18/08

David L. Hatcher

CONSENT FORM